Claims:

1. (currently amended) An electrolyte-containing system for use with an energy storage device, comprising:

a non-aqueous liquid electrolyte solution including a non-aqueous solvent and a salt; and

a flame retardant material that is a liquid at room temperature and pressure and substantially immiscible in the non-aqueous electrolyte solution, forming a meniscus when mixed with the non-aqueous electrolyte solution.

2. (currently amended) The electrolyte-containing system according to claim 1, wherein the salt is present in the non-aqueous electrolyte solution in a concentration ranging from about 0.1 to about 3.0 moles/liter.

3. (currently amended) The electrolyte-containing system according to claim 1, wherein the salt is present in the non-aqueous electrolyte solution in a concentration ranging from about 0.5 to about 2.0 moles/liter.

4. (currently amended) The electrolyte-containing system according to claim 1, wherein the flame retardant material is a halogen-containing compound.

5. (currently amended) The electrolyte-containing system according to claim 4, wherein the halogen-containing compound is present in an amount ranging from about 1 to about 99% by weight of the non-aqueous solvent.

6. (currently amended) The electrolyte-containing system according to claim 4, wherein the halogen-containing compound is present in an amount ranging from about 1 to about 70% by weight of the non-aqueous solvent.

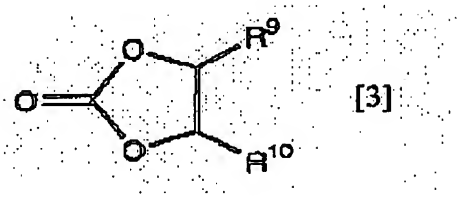
7. (currently amended) The electrolyte-containing system according to claim 4, wherein the halogen-containing compound is present in an amount ranging from about 10 to about 60% by weight of the non-aqueous solvent.

8. (currently amended) The electrolyte-containing system according to claim 4, wherein the halogen-containing compound is present in an amount ranging from about 20 to about 40% by weight of the non-aqueous solvent.

9. (currently amended) The electrolyte-containing system of claim 1, wherein the non-aqueous solvent includes at least one carbonate selected from the group consisting of cyclic carbonates, linear carbonates and mixtures thereof.

10. (currently amended) The electrolyte-containing system of claim 9, wherein the at least one carbonate comprises a carbonate selected from the group consisting of: a cyclic carbonate containing an alkylene group with 2 to 5 carbon atoms and a linear carbonate containing a hydrocarbon group with 1 to 5 carbon atoms.

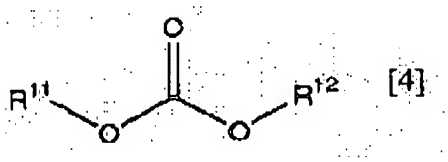
11. (currently amended) The electrolyte-containing system according to claim 1, wherein the non-aqueous solvent includes at least one cyclic carbonate represented by the formula



[3]

wherein R^9 and R^{10} are independently selected from the group consisting of hydrogen, linear alkyl groups, branched alkyl groups, cyclic alkyl groups, and halogen-substituted alkyl groups in which at least one hydrogen is substituted by chlorine or bromine.

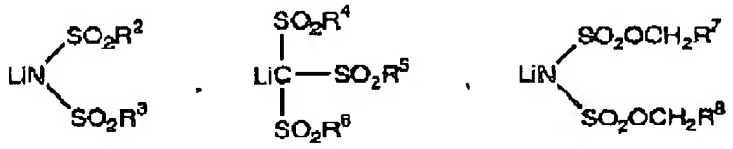
12. (currently amended) The electrolyte-containing system according to claim 1, wherein the non-aqueous solvent includes at least one linear carbonate represented by the formula



[4]

wherein R^{11} and R^{12} are independently selected from the group consisting of linear alkyl groups, branched alkyl groups, cyclic alkyl groups, and halogen-substituted alkyl groups in which at least one hydrogen atom is substituted by fluorine, chlorine or bromine.

13. (currently amended) The electrolyte-containing system according to claim 1, wherein the salt is selected from the group consisting of: $LiPF_6$, $LiBF_4$, $LiOSO_2R^1$,



wherein R^1 through R^8 are independently selected from the group consisting of: perfluoroalkyls, alkyls, and aryls with 1 to 6 carbon atoms.

14. (currently amended) The electrolyte-containing system according to claim 4, wherein the halogen-containing compound contains at least one member selected from the group consisting of branched or unbranched alkyl, cyclic alkyl, ether, aminoalkyl, and aliphatic heterocyclic compound groups in which one or more hydrogen atoms are substituted by a halogen selected from the group consisting of fluorine, chlorine and bromine.

15. (currently amended) The electrolyte-containing system according to claim 4, wherein the halogen-containing compound contains at least one member selected from the group consisting of perfluoroalkyl groups, perfluoroaminoalkyl groups, perfluoroether groups and mixtures thereof.

16. (currently amended) The electrolyte-containing system according to claim 4, wherein the halogen-containing compound is perfluoro-1,3-dimethylcyclohexane.

17. (currently amended) A method of making an energy storage device comprising:

providing an electrode assembly including:

a first electrode member;

a second electrode member; and

a separator member physically and electrically separating the first electrode member from the second electrode member but capable of allowing ionic ~~conductivity~~ conduction between the first electrode member and the second electrode member;

placing the assembly in a casing; and

filling the casing with ~~the~~ an electrolyte-containing system ~~according to any of claims 1—15, or 24~~ by:

first, filling the casing at least partially with ~~the~~ a non-aqueous electrolyte solution;

waiting a period of time sufficient for the non-aqueous electrolyte solution to penetrate one or more pores of the electrode assembly; and

then adding ~~the~~ a flame retardant material that is a liquid at room temperature and pressure and substantially immiscible in the nonaqueous electrolyte solution ~~to the casing~~.

18. (currently amended) The method of making an energy storage device of claim 17, further comprising the step of charging the energy storage device after ~~filling the casing at least partially with~~ adding the non-aqueous electrolyte solution ~~and before adding the flame retardant material to the casing~~.

19. (original) A method of making an energy storage device according to claim 17, wherein the first electrode member is a negative electrode, the second electrode member is a positive electrode, and the separator member is a resin containing a polymer.

20. (currently amended) An energy storage device comprising:

~~the electrolyte system according to any of claims 1 15, or 24;~~

an electrode assembly, ~~the electrode assembly~~ including:

a first electrode member;

a second electrode member; and

a separator member physically and electrically separating the first electrode member from the second electrode member but capable of allowing ionic ~~conductivity~~ conduction between the first electrode member and the second electrode member ~~through the non-aqueous electrolyte solution~~;

a nonaqueous electrolyte solution, including a nonaqueous solvent and a salt, occupying a region defined by the separator,

a flame retardant material that is a liquid at room temperature and pressure and substantially immiscible in the nonaqueous electrolyte solution, and not in the region defined by the separator, and

a casing enclosing the electrode assembly, the nonaqueous electrolyte solution, and the ~~electrolyte system~~ flame retardant material.

21. (original) The energy storage device according to claim 20, wherein:

the first electrode member is a negative electrode containing a material selected from the group consisting of lithium metal, a lithium alloy, a carbon material that can be doped and undoped with lithium ions, a metal oxide that can be doped and undoped with lithium ions, and silicon that can be doped and undoped with lithium ions,

the second electrode member is a positive electrode containing a material selected from the group consisting of complex oxide of lithium and a transition metal, and a complex oxide of lithium, transition metal and a non-transition metal, and

the separator member is a resin containing a polymer.

22. (previously amended) The energy storage device according to claim 21, wherein the negative electrode contains a metal oxide selected from the group consisting of: tin oxide and titanium oxide.

23. (original) The energy storage device according to claim 21, wherein the energy storage device is a lithium battery.

24. (currently amended) The electrolyte-containing system according to claim 1, wherein the flame retardant material is $C_{15}F_{33}N$.

25. (new) The electrolyte-containing system according to claim 1, wherein the nonaqueous solvent comprises two or more solvents.

26. (new) An electrolyte-containing system comprising:

a nonaqueous electrolyte solution including:

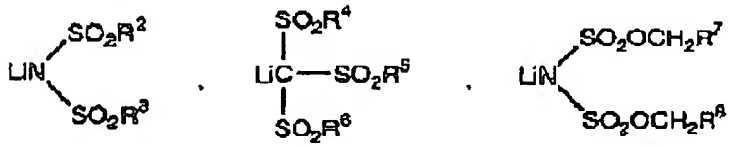
a nonaqueous solvent; and

a salt; and

a flame retardant material that is a liquid at room temperature and pressure and substantially immiscible in the nonaqueous electrolyte solution, wherein the flame retardant material comprises perfluoro-1,3-dimethylcyclohexane.

27. (new) The electrolyte-containing system according to claim 26, wherein the nonaqueous solvent includes at least one carbonate selected from the group consisting of cyclic carbonates, linear carbonates, and mixtures thereof.

28. (new) The electrolyte-containing system according to claim 26, wherein the salt is selected from the group consisting of: $LiPF_6$, $LiBF_4$, $LiOSO_2R^1$,



wherein R^1 through R^8 are independently selected from the group consisting of: perfluoroalkyls, alkyls, and aryls with 1 to 6 carbon atoms.

29. (new) An electrolyte-containing system comprising:

a nonaqueous electrolyte solution including:

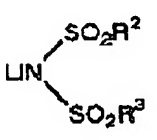
a nonaqueous solvent; and

a salt; and

a flame retardant material that is a liquid at room temperature and pressure and substantially immiscible in the nonaqueous electrolyte solution, wherein the flame retardant material comprises $C_{15}F_{33}N$.

30. (new) The electrolyte-containing system according to claim 29, wherein the nonaqueous solvent includes at least one carbonate selected from the group consisting of cyclic carbonates, linear carbonates, and mixtures thereof.

31. (new) The electrolyte-containing system according to claim 29, wherein the salt is selected from the group consisting of: $LiPF_6$, $LiBF_4$, $LiOSO_2R^1$,



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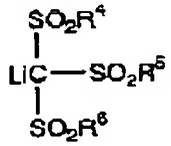

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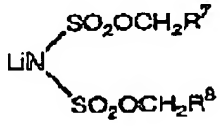

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wherein R^1 through R^8 are independently selected from the group consisting of: perfluoroalkyls, alkyls, and aryls with 1 to 6 carbon atoms.

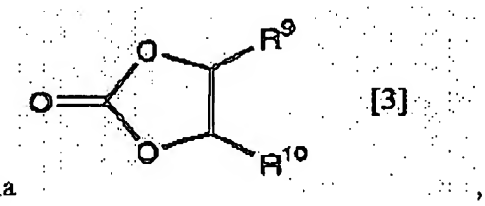
32. (new) The energy storage device according to claim 20, wherein the energy storage device is a lithium ion cell.

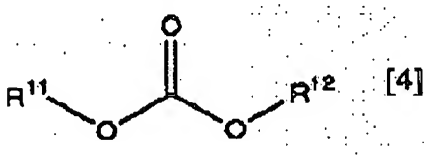
33. (new) The energy storage device according to claim 20, wherein the energy storage device is a first battery having a discharge capacity of at least 93.7% of the discharge capacity of a second battery prepared in the same manner as the first battery except not adding the flame retardant material.

34. (new) The energy storage device according to claim 20, wherein the nonaqueous solvent is resistant to being electrolyzed by oxidation-reduction at the battery poles.

35. (new) The energy storage device according to claim 20, wherein the nonaqueous solvent includes at least one carbonate selected from the group consisting of cyclic carbonates, linear carbonates, and mixtures thereof.

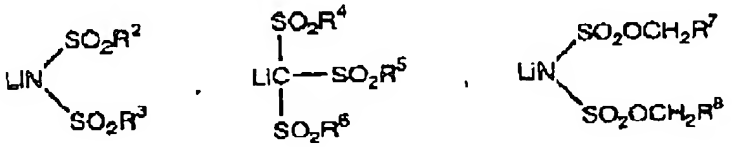
36. (new) The energy storage device of claim 20, wherein the nonaqueous solvent includes at least one carbonate selected from the group consisting of: a cyclic carbonate containing an alkylene group with 2 to 5 carbon atoms and a linear carbonate containing a hydrocarbon group with 1 to 5 carbon atoms.

37. (new) The energy storage device according to claim 20, wherein the nonaqueous solvent includes at least one cyclic carbonate represented by the formula  [3], wherein R^9 and R^{10} are independently selected from the group consisting of hydrogen, linear alkyl groups, branched alkyl groups, cyclic alkyl groups, and halogen-substituted alkyl groups in which at least one hydrogen is substituted by chlorine or bromine.

38. (new) The energy storage device according to claim 20, wherein the nonaqueous solvent includes at least one linear carbonate represented by the formula  [4], wherein R11 and R12 are independently selected from the group consisting of linear alkyl groups, branched alkyl groups, cyclic alkyl groups, and halogen-substituted alkyl groups in which at least one hydrogen atom is substituted by fluorine, chlorine, or bromine.

39. (new) The energy storage device according to claim 20, wherein the nonaqueous solvent comprises two or more solvents.

40. (new) The energy storage device according to claim 20, wherein the salt is selected from the group consisting of: $LiPF_6$, $LiBF_4$, $LiOSO_2R^1$,



wherein R^1 through R^8 are independently selected from the group consisting of: perfluoroalkyls, alkyls, and aryls with 1 to 6 carbon atoms.

41. (new) The energy storage device according to claim 20, wherein the salt is present in the nonaqueous electrolyte solution in a concentration ranging from about 0.1 to about 3.0 moles/liter.

42. (new) The energy storage device according to claim 20, wherein the salt is present in the nonaqueous electrolyte solution in a concentration ranging from about 0.5 to about 2.0 moles/liter.

43. (new) The energy storage device according to claim 20, wherein the flame retardant material is a halogen-containing compound.

44. (new) The energy storage device according to claim 43, wherein the halogen-containing compound contains at least one member selected from the group consisting of branched or unbranched alkyl, cyclic alkyl, ether, aminoalkyl, and aliphatic heterocyclic compound groups in which one or more hydrogen atoms are substituted by a halogen selected from the group consisting of fluorine, chlorine, and bromine.

45. (new) The energy storage device according to claim 44, wherein the halogen-containing compound comprises perfluoro-1,3-dimethylcyclohexane.

46. (new) The energy storage device according to claim 44, wherein the halogen-containing compound comprises $C_{15}F_{33}N$.

47. (new) The energy storage device according to claim 43, wherein the halogen-containing compound contains at least one member selected from the group consisting of perfluoroalkyl groups, perfluoroaminoalkyl groups, perfluoroether groups, and mixtures thereof.

48. (new) The energy storage device according to claim 47, wherein the halogen-containing compound comprises $C_{15}F_{33}N$.

49. (new) The energy storage device according to claim 43, wherein the halogen-containing compound is present in an amount ranging from about 1 to about 70% by weight of the nonaqueous solvent.

50. (new) The energy storage device according to claim 43, wherein the halogen-containing compound is present in an amount ranging from about 10 to about 60% by weight of the nonaqueous solvent.

51. (new) The energy storage device according to claim 43, wherein the halogen-containing compound is present in an amount ranging from about 20 to about 40% by weight of the nonaqueous solvent.

52. (new) The energy storage device according to claim 20, wherein the nonaqueous electrolyte solution contains about 10 wt% or less of the flame retardant material.

53. (new) The energy storage device according to claim 20, wherein the nonaqueous electrolyte solution contains 1000 ppm or less of the flame retardant material.

54. (new) A method of making an energy storage device according to claim 17, wherein the flame retardant material is added after waiting 1 hour following partially filling the casing with the nonaqueous electrolyte solution.

55. (new) The method of making an energy storage device of claim 17, further comprising the steps of:

sealing the energy storage device; and

charging the energy storage device.